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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ikuo Kato

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EXAMINER

GWARTNEY, ELIZABETH A

ART UNIT

PAPER NUMBER

1794

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,798	<b>Applicant(s)</b> KATO ET AL.	
	<b>Examiner</b> Elizabeth Gwartney	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10-12, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-12, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Amendment filed 09/04/2008 has been entered. Claims 6-9 and 13-15 have been cancelled and claims 16-17 have been added. Claims 1-5, 10-12 and 16-17 are pending.
2. The previous 112, 2<sup>nd</sup> Paragraph rejections have been withdrawn in light of applicants' amendment made 09/04/2008.

### ***Claim Objections***

3. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 does not further limit the scope of the claim on which it depends give that claim 1 already requires an acidic pH adjustor.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 10-12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hitoshi et al. (EP 0 988 793 A1).

Regarding claims 1, 5 and 17, Hitoshi et al. disclose a method of manufacturing a drink made from soybean as a raw material (*see* whole soybeans or dehulled soybeans-[0013]), wherein the method comprises:

- preparing a stabilized suspension (i.e. soymilk) by grinding and aqueous slurry of dehulled and hypocotyl-removed soybeans and homogenizing the ground soybean under a pressure of  $170 \text{ kg/cm}^2$  ([0033]/Example 1).

- adding a coagulant to the soymilk ([0034]-[0035]/Example 1); and

- homogenizing the soymilk with added coagulant under a pressure of  $100 \text{ kg/cm}^2$  ([0035]/Example 1).

Given that Hitoshi et al. disclose a step to heat the stabilized soybean suspension containing the coagulant at a temperature of  $70^\circ\text{C}$  to  $150^\circ\text{C}$  (Abstract, [0035]/Example 1), it is clear that the soy protein would inherently be denatured.

Regarding claim 2, Hitoshi et al. disclose all of the claim limitations as set forth above. Hitoshi et al. also disclose that the method further comprises a step of fermentation following the step of homogenizing the soymilk with added coagulant ([0036]/Example 1) wherein the fermentation comprises adding lactic acid bacteria ([0036]/Example 1).

Regarding claim 3, Hitoshi et al. disclose all of the claim limitations as set forth above. Hitoshi et al. also disclose homogenizing the fermented soy material (i.e. re-dispersing) ([0052]/Example 4).

Regarding claim 4, Hitoshi et al. disclose all of the claim limitations as set forth above and that the coagulant is magnesium chloride ([0034]/Example 1).

Regarding claim 10, Hitoshi et al. disclose a method of manufacturing a solid fermented food (i.e. yogurt – [0031]) made from beans as a raw material (*see* whole soybeans or dehulled soybeans- [0013]), wherein the method comprises the steps of:

- preparing a stabilized suspension (i.e. soymilk) by grinding and aqueous slurry of dehulled and hypocotyl-removed soybeans and homogenizing the ground soybean under a pressure of 170 kg/cm<sup>2</sup> ([0033]/Example 1).

- adding a coagulant to the soymilk ([0034]-[0035]/Example 1); and

- homogenizing the soymilk with added coagulant under a pressure of 100 kg/ cm<sup>2</sup> ([0035]/Example 1).

- fermenting the homogenized soymilk with added coagulant by adding a lactic acid bacteria ([0036]/Example 1).

Given that Hitoshi et al. disclose adding a coagulant identical to that of the present invention, it is clear that the soy protein would inherently be denatured.

Regarding claim 11, Hitoshi et al. disclose all of the claim limitations as set forth above. Given that the step of adding saccharides is optional, since saccharides are not disclosed by Hitoshi et al., the limitations of the claim are met by Hitoshi et al.

Regarding claim 12, Hitoshi et al. disclose all of the claim limitations as set forth above and that the coagulant is magnesium chloride ([0034]/Example 1).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hitoshi et al. (EP 0 988 793 A1).

Regarding claim 16, Hitoshi et al. disclose all of the claim limitations as set forth above. While Hitoshi et al. disclose preparing a stabilized suspension of soymilk by homogenizing ground soybeans under a pressure of 170 kg/cm<sup>2</sup> ([0033]/Example 1), the reference does not disclose repeating the homogenization process 2 to 4 times. As particle size and viscosity are variables that can be modified, among others, by adjusting

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number of passes through the homogenizer, the precise number of passes would have been considered a result effective variable by one of ordinary skill in the art at the time of the invention. As such, without showing unexpected results, the claimed number of passes through the homogenizer cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the number of passes through the homogenizer in Hitoshi et al. to obtain the desired particle size and viscosity (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

9. Claims 1-5, 10-12 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitoshi et al. (EP 0 988 793 A1) in view of Awazu (JP 59132866 - *Abstract only*).

Regarding claims 1, 5 and 16-17, Hitoshi et al. disclose a method of manufacturing a drink made from soybean as a raw material (*see* whole soybeans or dehulled soybeans- [0013]), wherein the method comprises:

- preparing a stabilized suspension of soybeans by grinding an aqueous slurry of dehulled and hypocotyl-removed soybeans and homogenizing the ground soybean under a pressure of 170 kg/cm<sup>2</sup> ([0033]/Example 1).

- adding a coagulant to the resulting soymilk ([0034]-[0035]/Example 1); and

- homogenizing the soymilk with added coagulant under a pressure of 100 kg/cm<sup>2</sup> ([0035]/Example 1).

Given that Hitoshi et al. disclose a step to heat the stabilized soybean suspension containing the coagulant at a temperature of 70°C to 150°C (Abstract, [0035]/Example 1), it is clear that the soy protein would inherently be denatured.

While Hitoshi et al. disclose preparing a suspension of soybeans by homogenization, the reference does not explicitly disclose adding coagulant to the resultant homogenized mash but rather discloses adding coagulant to the resultant soymilk. Further, Hitoshi et al. does not disclose repeating the homogenization of the ground soybeans two to four times.

Awazu teaches the preparation of a bean curd by crushing shelled soybean grains, homogenizing repeatedly (i.e. 2-4 times) under a pressure of about 8,000 p.s.i. (i.e. 562.46 kgm/cm<sup>2</sup>) and adding a coagulant (Abstract). Awazu teaches preparing a bean curd rich in roughage (Abstract/Purpose).

Hitoshi et al. and Awazu are combinable because they are concerned with the same field of endeavor, namely, methods of manufacturing food derived from soybeans. It would have been obvious to one of ordinary skill in the art to have coagulated a soybean mash, as taught by Hitoshi et al. in the process of Hitoshi et al. for the purpose of producing a soybean product without producing bean curd refuse as a by-product.

Regarding claim 2, modified Hitoshi et al. disclose all of the claim limitations as set forth above. Hitoshi et al. also disclose that the method further comprises a step of fermentation following the step of homogenizing the soymilk with added coagulant ([0036]/Example 1) wherein the fermentation comprises adding lactic acid bacteria ([0036]/Example 1).



Regarding claim 3, modified Hitoshi et al. disclose all of the claim limitations as set forth above. Hitoshi et al. also disclose homogenizing the fermented soy material (i.e. re-dispersing) ([0052]/Example 4).

Regarding claim 4, modified Hitoshi et al. disclose all of the claim limitations as set forth above and that the coagulant is magnesium chloride ([0034]/Example 1).

Regarding claim 10, Hitoshi et al. disclose a method of manufacturing a solid fermented food (i.e. yogurt – [0031]) made from beans as a raw material (*see* whole soybeans or dehulled soybeans- [0013]), wherein the method comprises the steps of:

- preparing a stabilized suspension (i.e. soymilk) by grinding dehulled and hypocotyl-removed soybeans homogenizing the ground soybean under a pressure of 170 kg/cm<sup>2</sup> ([0033]/Example 1).

- adding a coagulant to the soymilk ([0034]-[0035]/Example 1); and

- homogenizing the soymilk with added coagulant under a pressure of 100 kg/ cm<sup>2</sup> ([0035]/Example 1).

- fermenting the homogenized soymilk with added coagulant by adding a lactic acid bacteria ([0036]/Example 1).

Given that Hitoshi et al. disclose adding a coagulant identical to that of the present invention, it is clear that the soy protein would inherently be denatured.

While Hitoshi et al. disclose preparing a suspension of soybeans by homogenization, the reference does not explicitly disclose adding coagulant to the resultant homogenized mash but rather discloses adding coagulant to the resultant soymilk. Further, Hitoshi et al. does not disclose repeating the homogenization of the ground soybeans two to four times.

Awazu teaches the preparation of a bean curd by crushing shelled soybean grains, homogenizing repeatedly (i.e. 2-4 times) under a pressure of about 8,000 p.s.i. (i.e. 562.46 kgm/ cm<sup>2</sup>) and adding a coagulant (Abstract). Awazu teaches preparing a bean curd rich in roughage (Abstract/Purpose).

Hitoshi et al. and Awazu are combinable because they are concerned with the same field of endeavor, namely, methods of manufacturing food derived from soybeans. It would have been obvious to one of ordinary skill in the art to have coagulated a soybean mash, as taught by Hitoshi et al. in the fermentation process of Hitoshi et al. for the purpose of producing a soybean product without producing bean curd refuse as a by-product.

Regarding claim 11, modified Hitoshi et al. disclose all of the claim limitations as set forth above. Given that the step of adding saccharides is optional, since saccharides are not disclosed by modified Hitoshi et al., the limitations of the claim are met by Hitoshi et al.

Regarding claim 12, modified Hitoshi et al. disclose all of the claim limitations as set forth above and that the coagulant is magnesium chloride ([0034]/Example 1).

### ***Response to Arguments***

10. Applicants' arguments, see "Remarks", filed 09/04/2008, with respect to the rejection(s) of claim(s) 1-5 and 10-12 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hitoshi et al. (EP 0 988 793 A1) and Awazu (JP 59132866 - *Abstract only*). Further, given that the Hitoshi et al.

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reference remains, the applicable arguments directed towards this reference are addressed below.

Applicants argue that Hitoshi et al. teaches against denaturing soybean protein as claimed because it causes rough texture. Given that Hitoshi et al. disclose, *preferably*, that the starting soybean has a pH of 7 to 8 ([0015]), the reference does not exclude soybean material with a range of starting pH values. Thus, at lower, pH values, the soybean protein will inherently be denatured. Further, given that Hitoshi et al. disclose a step to heat the stabilized soybean suspension containing the coagulant at a temperature of 70°C to 150°C (Abstract, [0035]/Example1), it is clear that the soy protein would inherently be denatured.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kawahara (JP 59071641 A) teaches a yogurt product obtained by adding lactic acid bacteria to a homogenized soybean milk containing a coagulating agent. The reference does not teach treating a soybean mash by homogenization.

- Tsumura et al. (EP 1 031 284 A1) teaches the preparation of a soymilk additive comprising the steps of adding a coagulant to soymilk and homogenizing repeatedly. The reference does not teach the homogenization of a soybean mash.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gwartney whose telephone number is (571)

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270-3874. The examiner can normally be reached on Monday - Thursday; 7:30AM - 5:00PM EST, working alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. G./  
Examiner, Art Unit 1794

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794